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ABSTRACT

This paper summarizes similarities and differences between two cohorts of the National Treatment Improvement Evaluation Study (NTIES) clients, those age 45 or older and those younger than 45. Results reveal the following: Clients in the 45+ cohort were considerably more likely to be treated for problems with alcohol or with heroin, and they were correspondingly less likely to be treated for crack, cocaine, or other drugs; for clients in the 45+ cohort who were treated for heroin, it appears that methadone treatment programs did not work well; of those treated for alcoholism in this group, post-treatment relapse rates were 40-50%; the overall percentage of 45+ clients who reported being troubled by their alcohol use declined from 30% to 10% following treatment; needle use and needle sharing declined sharply after treatment; physical disabilities were more prevalent among the 45+ group; and the 45+ cohort members evidenced marked pre-treatment versus post-treatment declines in the prevalence and amount of physical assaults and criminal activities, as well as in the frequency of arrests for such behaviors, with reductions of around 80% being seen for several indicators. An appendix entitled "Description of the National Treatment Improvement Evaluation Study and Center for Substance Abuse Treatment Demonstrations (1990-1992)" is included. (Contains 3 figures and 15 tables.) (MKA)

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NATIONAL EVALUATION DATA SERVICES

THE NATIONAL TREATMENT IMPROVEMENT EVALUATION STUDY (NTIES): PROFILE OF CLIENTS AGE 45 AND OVER

January 1998

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TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	i
ACKNOWLEDGMENTS	ii
I. INTRODUCTION	1
II. RESULTS	3
1. CLIENT CHARACTERISTICS AT INTAKE	3
2. TREATMENT CHARACTERISTICS	5
3. TREATMENT OUTCOMES	13
3.1 Drug and Alcohol Abuse	13
3.2 Crimes, Physical Assaults, and Arrests	17
3.3 Other Outcomes	20
III. SUMMARY AND CONCLUSIONS	24
APPENDIX: DESCRIPTION OF THE NATIONAL TREATMENT IMPROVEMENT EVALUATION STUDY AND CENTER FOR SUBSTANCE ABUSE TREATMENT DEMONSTRATIONS (1990-1992)	A-1

FOREWORD

The Center for Substance Abuse Treatment (CSAT) works to improve the lives of those affected by alcohol and other substance abuse, and, through treatment, to reduce the ill effects of substance abuse on individuals, families, communities, and society at large. Thus, one important mission of CSAT is to expand the knowledge about and the availability of effective substance abuse treatment and recovery services. To aid in accomplishing that mission, CSAT has invested and continues to invest significant resources in the development and acquisition of high quality data about substance abuse treatment services, clients, and outcomes. Sound scientific analysis of this data provides evidence upon which to base answers to questions about what kinds of treatment are most effective for what groups of clients, and about which treatment approaches are cost-effective methods for curbing addiction and addiction-related behaviors.

In support of these efforts, the Program Evaluation Branch (PEB) of CSAT established the National Evaluation Data Services (NEDS) contract to provide a wide array of data management and scientific support services across various programmatic and evaluation activities and to mine existing data whose potential has not been fully explored. Essentially, NEDS is a pioneering effort for CSAT in that the Center previously had no mechanism established to pull together databases for broad analytic purposes or to house databases produced under a wide array of activities. One of the specific objectives of the NEDS project is to provide CSAT with a flexible analytic capability to use existing data to address policy-relevant questions about substance abuse treatment. This report has been produced in pursuit of that objective.

This report highlights the results of a secondary analysis of data from the National Treatment Improvement Evaluation Study (NTIES). The analysis was undertaken to identify how, and to what extent, older NTIES clients differed from younger clients at intake, in the treatment services they received, and in their treatment outcomes.

Sharon Bishop
Project Director
National Evaluation Data Services

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We wish to acknowledge our reliance upon the guidance and direction of Ron Smith, Ph.D., Program Evaluation Branch, the Government Project Officer for the NEDS contract. Caliber Associates is the prime contractor for NEDS in partnership with Battelle Centers for Public Health Research and Evaluation (CPHRE); the Lewin Group; and National Opinion Research Corporation (NORC).

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I. INTRODUCTION

This report highlights the results of a secondary analysis of data from the National Treatment Improvement Evaluation Study (NTIES). It profiles the cohort of NTIES clients age 45 or older, in comparison to younger NTIES clients, on a wide range of data elements encompassing all four NTIES client databases: the intake interview, the discharge interview, the Service Delivery Unit (SDU) records abstract form, and the post-treatment interview. The objective of this exploratory analysis is to identify how, and to what extent, these older NTIES clients differ from younger clients at intake, in the treatment services they receive, and in their treatment outcomes.

The NTIES project collected longitudinal data from purposive samples of substance abuse treatment clients drawn from treatment programs (SDUs) that were receiving demonstration grant funding from CSAT.¹ Data collection began in July 1993 and ended in October 1995. This analysis focused on the 4,411 NTIES clients for whom both pre-treatment intake and post-treatment follow-up data are available, along with either a discharge questionnaire or a patient records abstract form, and the 71 SDUs in which they received treatment. (A summary description of NTIES is included as an appendix to this report.)

The NTIES client population ranged in age from 13 to 70 at treatment intake (Exhibit I-1). But three-fifths of this population fell within a narrow 15-year range, from 25 to 39. Only 365 clients were age 45 or older (9%), and most of these (59%) were under age 50. Because the total number of age 45+ NTIES clients is small, this report does not examine age effects within this cohort.

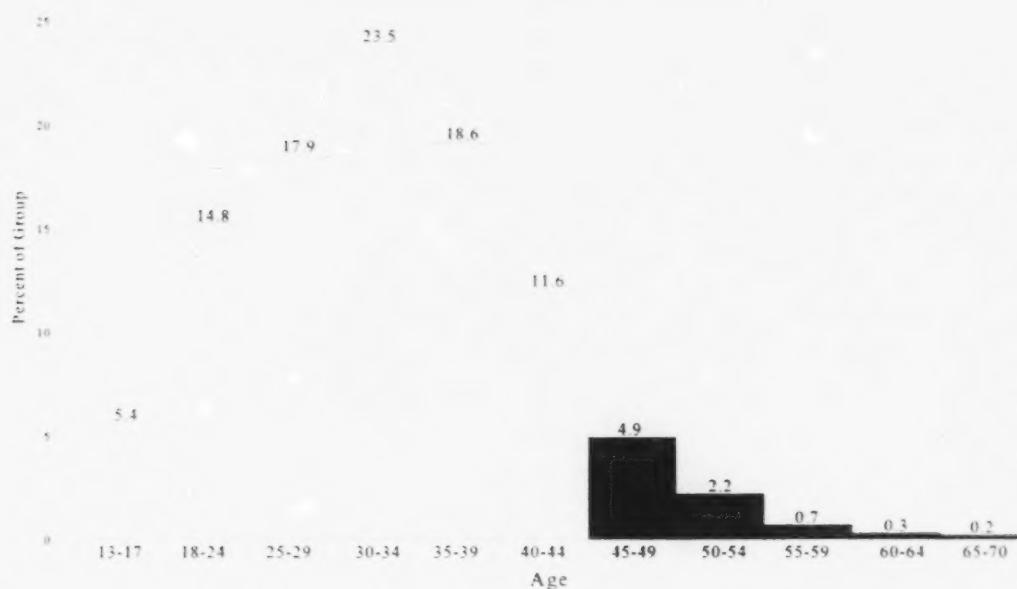
Findings are organized into three broad topic areas:

- Client characteristics at intake
- Treatment characteristics
- Treatment outcomes (pre-treatment vs. post-treatment comparisons).

¹ The National Treatment Improvement Evaluation Study Final Report. (March 1997). Chicago, IL: National Opinion Research Center.

This exploratory analysis does not include formal tests of the statistical significance of differences between younger and older NTIES clients. But, as a visual aid in identifying relatively large differences, trends and patterns, all instances where the difference between the two groups reaches 8 or more percentage points are footnoted and highlighted in bold type face.

EXHIBIT I-1
NTIES CLIENT AGE DISTRIBUTION



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II. RESULTS

This section of the report includes a description of the demographic characteristics of age 45+ and younger NTIES clients; the characteristics of the substance abuse treatment received by the two cohorts; and differences between the two cohorts on indicators of treatment outcomes.

1. CLIENT CHARACTERISTICS AT INTAKE

Demographic similarities and differences between age 45+ and younger NTIES clients are shown in Exhibit II-1. At intake, the older group was:

- More predominantly male than the younger group (79% vs. 68%)
- More often not working because of injury, illness or disability (16% vs. 5%)
- More often legally married (35% vs. 19%)
- Less often living with a parent or other person who support the client financially (38% vs. 60%)
- Less often in prison or jail at the time of the intake interview (8% vs. 17%).

The two groups were not noticeably different in terms of race/ethnicity, education, employment/incarceration status (other than in the above-noted prevalence of physical disabilities), or on most indicators of living situation prior to treatment.

Clients' reasons for seeking treatment are summarized in Exhibit II-2. As compared to younger NTIES clients, the age 45+ group:

- Less often cited regaining custody of children as a reason for entering treatment (7% vs. 19%)
- More often reported that they were entering treatment for problems with alcohol (62% vs. 46%) or with heroin (30% vs. 20%)
- Less often reported that they were entering treatment for problems with cocaine (26% vs. 33%), crack (17% vs. 30%), or marijuana (4% vs. 18%).

Many other intake questionnaire variables were also obtained in the follow-up questionnaire, to permit assessment of pre-treatment vs. post-treatment differences. These are discussed in Section 4.

EXHIBIT II-1
DEMOGRAPHIC CHARACTERISTICS OF NTIES CLIENTS AT
INTAKE, BY AGE GROUP

CHARACTERISTIC	CLIENT AGE	
	<45	45+
Number of clients	4,046	365
	(Column percent)	
Sex		
Male	68	79 ^a
Female	32	21 ^a
Race/ethnicity		
Hispanic	15	12
Black (non-Hispanic)	55	61
White (non-Hispanic)	30	27
Education: HS diploma or GED	59	61
Employment/incarceration status		
Currently employed	21	19
In jail/prison	17	8 ^a
Unable to work - drug use	17	12
Unable to work - injury/disability	5	16 ^a
Other/not ascertained	40	45
Living situation in past 12 mo's		
Living in own parents' house/apt	80	80
Currently married	19	35 ^a
Lives w/spouse or partner	51	46
Lives w/alcoholic	9	7
Lives w/drug user	9	7
Lives w/person who helps support client financially	60	38 ^a
Lives alone	4	13 ^a

^a Differs by 8 percentage points or more from comparison figure.

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EXHIBIT II-2
TREATMENT OBJECTIVES OF NTIES CLIENTS AT
INTAKE, BY AGE GROUP

CHARACTERISTIC	CLIENT AGE	
	<45	45+
Number of clients	4,046	365
	(Column percent)	
Reason(s) for seeking treatment		
Regain custody of child(ren)	19	7*
Avoid losing custody of child(ren)	25	20
Required by court, probation, etc.	36	29
Required by employer	10	11
Health reasons	3	8
Personal - want to change, improve	70	65
Primary substances for treatment:		
Crack	30	17*
Cocaine	33	26
Heroin	20	30*
Marijuana	18	4*
Alcohol	46	62*

* Differs by 8 percentage points or more from comparison figure.

2. TREATMENT CHARACTERISTICS

This section summarizes information about the characteristics of the substance abuse treatment received by the two age cohorts. Exhibit II-3 shows the numbers of CSAT-funded SDUs represented in the data, broken out by funding program (Critical Populations, Criminal Justice, and Target Cities) and by SDU type. Clients in the age 45+ cohort were represented in the vast majority of Target Cities and Criminal Justice Sites, but in only about one-third of the Critical Population sites. As shown, the age 45+ cohort was represented in 30 of the 31 Target Cities SDUs and in 9 of the 12 Criminal Justice SDUs. Among the 27 Critical Populations SDUs represented in the NTIES client sample, however, only 10 included data from clients age 45 or older. The total number of SDUs for the under 45 group (n=71) is the total number of SDUs from which the analysis sample of 4,411 clients was derived.

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EXHIBIT II-3
NUMBER OF SERVICE DELIVERY UNITS (SDUs)
FROM WHICH NTIES CLIENT DATA WERE OBTAINED,
BY TYPE OF PROGRAM AND BY SDU TYPE AND AGE GROUP

Type of Program	Outpatient Methadone		Nonmethadone Outpatient		Short-term Residential		Long-term Residential		Correctional		Total	
	<45	45+	<45	45+	<45	45+	<45	45+	<45	45+	<45	45+
Critical Populations	1	1	14	4	3	3	10	2	0	0	28	10
Criminal Justice	0	0	2	2	0	0	1	1	9	6	12	9
Target Cities	6	6	15	14	4	4	6	6	0	0	31	30
Totals	7	7	31	20	7	7	17	9	9	6	71	49

A similar breakdown is provided in Exhibit II-4, which shows the percentage of clients in the two age cohorts broken out by Program Type and SDU Type. Highlights are that the age 45+ group was:

- More often than younger clients drawn from SDUs funded under the Target Cities Program (75% vs. 58%)
- More often than younger clients concentrated in methadone (21% vs. 9%) and in other outpatient programs (44% vs. 35%)
- Less often than younger clients concentrated in long-term residential (9% vs. 20%) or in correctional SDUs (9% vs. 17%)
- Represented in short-term residential programs in about the same proportion as younger clients (17% vs. 20%).

It is also noteworthy that, when the total sample of 365 clients in the age 45+ group is broken out by SDU type, the sample sizes become small in several categories, e.g., correctional SDUs (n=32), long-term residential SDUs (n=34), and short-term residential SDUs (n=63). These small sample sizes limit the extent to which findings for the age 45+ cohort can meaningfully be broken out for analysis by SDU type.

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EXHIBIT II-4
DISTRIBUTION OF NTIES CLIENTS, BY TYPE OF PROGRAM AND
BY TYPE OF SDU AND AGE GROUP

Type of Program	Percent of Age Cohort											
	Outpatient Methadone		Nonmethadone Outpatient		Short-term Residential		Long-term Residential		Correctional		Total	
	<45	45+	<45	45+	<45	45+	<45	45+	<45	45+	<45	45+
Critical Populations	1	4	5	2	9	5	7	1	0	0	22	12
Criminal Justice	0	0	3	4	0	0	1	1	17	9	21	13
Target Cities	8	17	27	38	11	13	12	8	0	0	58	75
Totals	9	21	35	44	20	17	20	9	17	9	100	100

Exhibit II-5 summarizes client treatment histories, prior to, during, and after their NTIES treatment experiences. As shown, significant proportions of both age groups received treatment or self-help for alcohol or drug problems before entering their NTIES programs, and many also received further treatment after their NTIES treatment episode ended. While the two groups' histories were similar in many respects, there were also some notable differences. Among them, the 45+ group:

- Less often received formal treatment for drug abuse in all three periods (e.g., during NTIES treatment: 63% vs. 81%), and more often received treatment for alcoholism before and during NTIES treatment (e.g., during NTIES treatment: 51% vs. 32%).
- More often received methadone treatment in all three periods (e.g., during NTIES treatment: 21% vs. 8%) and, as would be expected for methadone patients, more often received treatment lasting more than 6 months in all three periods (e.g., during NTIES treatment: 27% vs. 17%).
- Less often participated in Narcotics Anonymous, either before (50% vs. 60%) or after (31% vs. 44%) their NTIES treatment, although similarly high proportions of both groups participated in some form(s) of 12-step self-help program in all three periods (59%-76%).

About 25 percent of both groups received some form of inpatient and/or outpatient treatment for mental health problems both before and during their NTIES treatments. The two groups did not differ in this area.

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EXHIBIT II-5
TREATMENT HISTORIES OF NTIES CLIENTS, BY AGE GROUP

CHARACTERISTIC	BEFORE NTIES TREATMENT (EVER)		DURING NTIES TREATMENT		AFTER NTIES TREATMENT	
	<45	45+	<45	45+	<45	45+
Number of clients	4,046	365	3,373	308	4,046	365
			(Column percent)			
Treated for drug abuse (ex. NA)	50	42*	81	63*	31	25
Treated for alcoholism (ex. AA)	35	45*	32	51*	26	21
(Longest) treatment duration						
<1 month	38	34	29	25	25	22
1-6 months	40	38	54	48	56	53
> 6 months	22	28	16	27*	19	24
Treatment setting						
Methadone	4	12*	8	21*	3	10
Other outpatient	15	15	35	44*	16	15
Inpatient/residential	41	41	57	35*	18	9*
In 12-step program	76	76	74	74	62	59
Alcoholics Anonymous	63	64	not asked		42	44
Narcotics Anonymous	60	50*	..		44	31*
Cocaine Anonymous	27	19*	..		15	10
Mental health treatment	26	25	23	20	12	12
In-patient	16	16	not asked		4	3
Out-patient	18	17	..		10	10

* Differs by 8 percentage points or more from comparison group.

Additional information about the goals, frequency, and helpfulness of the NTIES treatment, as obtained in the client discharge interview, is presented in Exhibit II-6. Principal differences are that the 45+ group:

- More often cited "quit drinking" as a goal of their treatment plan (40% vs. 27%), and less often cited "get off illegal drugs" (55% vs. 66%)
- More often had treatment programs that involved counseling or other help on a schedule of once per week or less (43% vs. 34%).

In many other respects, however, the two groups did not differ from one another—in their treatment goals, their (self-reported) effort to reach treatment goals, or their assessment of the overall helpfulness of their treatment program.

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EXHIBIT II-6
TREATMENT DATA FROM CLIENT DISCHARGE
QUESTIONNAIRE, BY AGE GROUP

CHARACTERISTIC	CLIENT AGE	
	<45	45+
Number of clients	3,373	308
	(Column percent)	
Goal(s) of NTIES treatment plan		
Get off illegal drugs	66	55 ^a
Get off treatment drugs (methadone, etc.)	2	3
Quit drinking	27	40 ^a
Improve physical health	5	10
Improve mental health	15	14
Job-related	25	25
Reduce financial problems	2	1
Get housing	7	5
School-related	15	7 ^a
Stop committing crimes	2	<1
Reduce legal problems	2	<1
Improve family relations	16	11
Other	31	26
(Missing - no formal treatment plan)	(23)	(25)
Frequency of counseling or other help		
5+ times/week	31	24
2-4 times/week	35	34
1 time/week	28	36 ^a
< 1 time/week	6	7
Client effort to reach treatment goals		
Very much	79	83
Somewhat	19	16
Not at all	2	1
Client rating of treatment helpfulness		
Very much	63	64
Somewhat	30	29
Not at all	7	8

^a Differs by 8 percentage points or more from comparison figure.

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There was much overlapping information about NTIES treatment programs from three information sources: the intake interview (which addressed clients' perceived service needs at program entry), the patient records abstract form (which assembled data from SDU records shortly after discharge about services provided), and the discharge interview (which collected information from clients shortly after treatment ended about the services they received). These data are integrated and summarized in Exhibit II-7. From a data quality perspective, it is encouraging that the three sets of information generally match up well with one another. Despite differences in item wording and response categories among the various instruments, the specific drug/alcohol and other services provided by SDUs seem to have closely paralleled clients' perceived service needs, and information from agency records closely matches client-provided data about services and circumstances of discharge. These data indicate some fairly large group differences between age 45+ and younger clients in the substances for which treatment was sought and provided. Consistent with data from the client intake interviews, SDU patient records indicate that the 45+ group was (Exhibit II-8):

- More often treated for problems with alcohol (53% vs. 32%) or with heroin (30% vs. 18%)
- Less often treated for problems with powder cocaine (13% vs. 22%), crack (12% vs. 23%), or marijuana (3% vs. 12%).

For most categories of ancillary services, the older and younger client groups were remarkably similar to one another. Among the few exceptions were:

- Need for medical services (listed in Exhibit II-7 under "other physician services," the closest program records form equivalent), which was more often reported by the 45+ group than by younger clients (56% vs. 40%)
- Family counseling, which was provided to fewer of the 45+ group than to the younger client group (21% vs. 31%).

As for reasons for discharge from treatment, program records support client-reported data that age 45+ clients were somewhat more likely to complete their planned courses of treatment than clients under age 45 (50% vs. 44%).

Finally, SDU cost records indicate that the average cost of treatment was slightly higher for clients age 45+ than for younger clients (\$930 vs. \$902), and the two groups had similar combinations of payment sources (Exhibit II-9).

EXHIBIT II-7 TREATMENT PROFILES OF NTIES CLIENTS, BY AGE GROUP

CHARACTERISTIC	FROM INTAKE INTERVIEW (NEEDED)		FROM PROGRAM RECORDS (PROVIDED)		FROM CLIENT DISCHARGE INTERVIEW (RECEIVED)	
	<45	45+	<45	45+	<45	45+
Number of clients	4,046	365	3,315	303	3,373	308
	(Column percent)					
Primary substance(s) treated^a						
Marijuana	18	4 ^b	12	3 ^b	-	-
Crack	30	17 ^b	23	12 ^b	-	-
Cocaine	33	26	22	13 ^b	-	-
Heroin	20	30 ^b	18	30 ^b	-	-
Alcohol	46	62 ^b	32	53 ^b	-	-
Services^c						
Intake physical exam	-	-	63	67	-	-
Other physician services ^d	40	56 ^b	40	38	51	43 ^b
Psychiatrist/psychologist visits ^d	37	38	22	15	23	20
Nurse (practitioner) services	-	-	33	32	-	-
Non-English services	-	-	3	4	<1	1
Individual counseling	-	-	93	94	-	-
Group counseling	-	-	87	86	-	-
Family counseling ^d	44	39	31	21 ^b	32	21 ^b
Services for abused persons	-	-	-	-	12	8
Employment counseling ^d	-	-	9	13	17	12
Job training	-	-	5	4	-	-
Academic training	-	-	9	3	9	4
Self-help groups (AA, NA, etc.)	-	-	58	61	-	-
Interpersonal skills training ^d	31	32	34	33	44	32 ^b
Parenting skills training	30	14 ^b	13	8	15	7 ^b
AIDS education	-	-	58	60	33	38
Financial counseling	44	43	-	-	-	-
Practical skills training	-	-	20	16	17	16
Assistance getting benefits	-	-	19	16	14	9
Legal services	-	-	5	3	4	3
Transportation services	-	-	16	11	35	35
Pregnancy-related services	-	-	3	2	1	0
Day care for children	-	-	2	1	2	0
Housing assistance	52	50	9	5	12	8
Room and board	-	-	33	25 ^b	-	-
Post-discharge planning	-	-	42	49	-	-
Reason for discharge						
Treatment completed	-	-	44	50	30	36
Referred to another program	-	-	4	3	2	<1
Terminated by SDU	-	-	12	9	7	5
Moved/logistical/cost problems	-	-	-	-	7	8
Incarcerated	-	-	2	1	2	2
Other/unknown	-	-	38	37	52	49

^a Excludes categories reported by less than 4 percent of clients.

^b Differs by 8 percentage points or more from comparison group.

^c Services data from intake interview show percent rating it "very important" to obtain indicated service.

^d Significant wording difference between records abstract form and client interview, e.g., other physician services vs. any kind of medical services, psychiatrist/psychologist visits vs. treatment for problems with emotions, nerves or mental health, job training vs. job skills counseling.

EXHIBIT II-8
SUBSTANCES FOR WHICH NTIES TREATMENT WAS
PROVIDED, BY CLIENT AGE GROUP

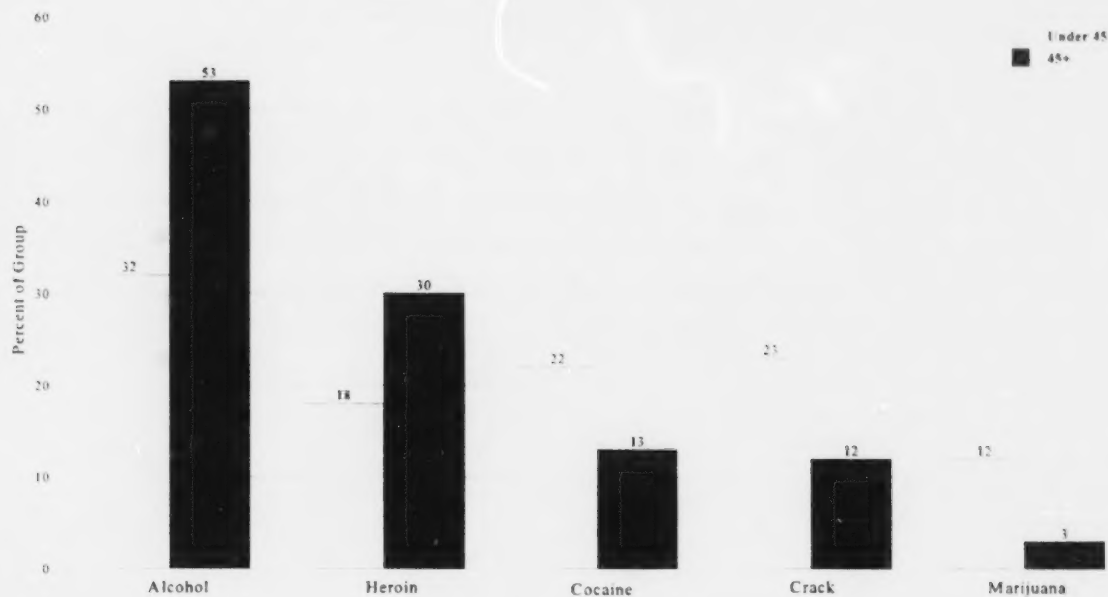


EXHIBIT II-9
TREATMENT COST DATA, BY AGE GROUP

CHARACTERISTIC	CLIENT AGE	
	<45	45+
Number of clients	3,315	303
Mean cost/client of NTIES treatment	\$902	\$930
(Column percent)		
Main source of payment for treatment		
Private insurance	5	7
Self-pay	15	14
Medicaid	36	38
Other insurance	5	5
Government source	34	27
Other source	5	9
(missing)	(33)	(24)

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3. TREATMENT OUTCOMES

This section describes similarities and differences between age 45+ and younger NTIES clients on indicators of treatment outcomes. Findings are discussed separately for (1) drug and alcohol abuse outcomes; (2) outcomes for crime, physical assaults, and arrests; and (3) other outcomes.

3.1 Drug and Alcohol Abuse

Exhibit II-10 summarizes findings concerning treatment outcomes for drug and alcohol abuse. The table includes several kinds of indicators, which are discussed in turn. The first section displays the overall percentage of each group that reported using a particular drug (or any drug) five or more times during the 12 month periods before and after treatment, and the percent reduction in usage prevalence represented by the difference between the before and after figures. This pre-post method is the same as the one used in the NTIES Final Report to examine drug outcomes. The last two rows in this first section extend the approach to provide analogous pre-post statistics for alcohol use during the 30-day periods before the intake and follow-up interviews, respectively.² Highlights are that the 45+ group:

- Evidenced less widespread pre-treatment usage of cocaine, crack, and marijuana, and more widespread usage of heroin
- Evidenced less widespread pre-treatment drug use overall
- Showed substantial reductions in drug usage rates in the post-treatment period in all major drug categories, as also occurred among clients under 45
- Showed somewhat higher pre-treatment alcohol use rates and somewhat larger post-treatment reductions in alcohol use than under 45 clients, though the differences in this area were not large either between cohorts or between pre-treatment and post-treatment use rates.

The second section of Exhibit II-10 uses a different measurement approach for examining treatment outcomes. Instead of looking at net changes in use levels across all substances for all clients, it provides a more targeted look at post-treatment relapse use of a specific substance

² The intake interview did not ask about alcohol use during the previous 12-month period. This is the reason for using different time references for drug and alcohol usage measures.

EXHIBIT II-10
PRE-POST TREATMENT OUTCOMES: DRUG/ALCOHOL
ABUSE, BY AGE GROUP

CHARACTERISTIC	12 MONTHS BEFORE TREATMENT		12 MONTHS AFTER TREATMENT ^a		PERCENT REDUCTION ^b	
	<45	45+	<45	45+	<45	45+
Number of clients	4,046	365	4,046	365	4,046	365
	(Column percent)					
Substance(s) used: all clients						
Cocaine	40	34	17	18	59	46
Crack	52	32 ^c	23	15 ^c	55	53
Heroin	23	30	13	19	44	38
Marijuana	58	33 ^c	27	15 ^c	53	55
Inhalants	3	1	1	1	-	-
PCP	4	<1	1	0	-	-
Hallucinogens	6	<1	2	<1	-	-
Illegal methadone	3	6	1	2	-	-
Other narcotics	10	11	3	3	-	-
Uppers	8	6	3	2	-	-
Downers	10	5	4	5	-	-
Other drugs	1	1	1	0	-	-
Total: any drug	84	64 ^c	49	39 ^c	42	39
Alcohol: any use in last month	49	52	44	43	10	17
Alcohol: drunk 1+ times in last month	27	26	20	17	26	35
Use by clients treated for this^d						
Cocaine (Ns= 1,337 & 96)	100	100	26	44 ^c	74	56
Crack (Ns=1,233 & 61)	100	100	41	38	59	62
Heroin (Ns=813 & 110)	100	100	55	60	45	40
Alcohol (Ns=1,774 & 213) - any drinks in last 30 days	100	100	50	50	50	50
Alcohol - drunk in last 30 days	100	100	46	39	54	61
Needle use						
Injected drugs	20	32 ^c	11	17	45	47
Shared needles	8	12	3	2	62	79
Troubled very much by:						
Drug use	43	39	16	12	63	69
Alcohol use	24	30	6	10	75	67

^a Post-treatment data are based on actual interval following discharge, not adjusted to 12-month estimates.

^b The symbol - represents instances in which sample size is too small to calculate change

^c Differs by 8 percentage points or more from comparison group. Not applicable to change measure.

^d Pretreatment use is assumed for clients entering treatment for specified substance.

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among clients who entered treatment to obtain help with that particular substance. It assumes that the client had an abuse problem with that substance in the pre-treatment period. Findings include:

- Post-treatment use/relapse rates are more varied, but generally higher, with this method of analyzing outcomes than with the pre-post method used in the Final Report.
- Heroin relapse rates calculated with this analysis method (60% for the 45+ group and 55% for clients under 45) are considerably higher than is evident from the overall levels of post-treatment heroin use calculated across all NTIES clients, including those who did not have a heroin problem before treatment (19% for the 45+ group vs. 13% for clients under 45).
- Alcohol relapse rates calculated with this method are comparable to the relapse rates seen for other major substances and are essentially the same for the two age cohorts.
- The only substance to show a clear age effect is cocaine, for which clients under 45 showed a remarkably low relapse rate (26%), a figure well below the one for age 45+ clients who received treatment for cocaine abuse (44%).

The last two sections of Exhibit II-10 provide other indicators of treatment outcomes. They show that:

- Before treatment, a higher percentage of clients in the 45+ group injected drugs and shared needles than in the under 45 group.
- Both groups showed substantial prevalence reductions in both needle-use measures, with the 45+ group evidencing especially large reductions in use of shared needles (from 12% before to 2% after). Given the emphasis on AIDS education in many CSAT-funded programs, this reduction in high-risk behavior is particularly encouraging.
- Both groups showed substantial pre-post reductions in the percentages of clients who reported being "very troubled" by their drug use or by their alcohol use.

Exhibit II-11 provides a breakout by treatment modality of the main pre-post indicators discussed above. Particular caution is needed in examining these findings, because of the very small samples sizes involved in several of the modality categories for the age 45+ group (e.g., n=32 in correctional; 34 in long-term residential). Findings for these small groups should be regarded as suggestive only. Highlights of age-related differences include the following:

EXHIBIT II-11
PRE-POST TREATMENT OUTCOMES: DRUG/ALCOHOL ABUSE, BY TREATMENT
MODALITY AND AGE GROUP

OUTCOME MEASURE	TREATMENT MODALITY											
	METHADONE		OTHER OUTPATIENT		SHORT-TERM RESIDENTIAL		LONG-TERM RESIDENTIAL		CORRECTIONAL		TOTAL	
	<45	45+	<45	45+	<45	45+	<45	45+	<45	45+	<45	45+
Number of Clients	346	76	1,406	160	810	63	807	34	677	32	4,046	365
	(Column percent)											
Used cocaine 5+ times:	59	53	28	25	47	32*	42	47	43	28*	40	34
12 mo before tx.	34	40	13	8	21	24	16	18	10	9	17	18
12 mo after tx.	42%	25%	54%	68%	55%	25%	62%	62%	77%	68%	58%	47%
Percent reduction												
Used crack 5+ times:	32	17*	47	34*	63	30*	66	56*	43	31*	52	32*
12 mo before tx.	23	16	21	12*	29	16*	29	35	13	6	23	15*
12 mo after tx.	28%	6%	55%	65%	54%	47%	56%	38%	70%	81%	56%	53%
Percent reduction												
Used heroin 5+ times:	97	95	9	7	27	22	10	21*	24	22	23	30
12 mo before tx.	47	72*	15	9	16	7*	9	7	12	4*	13	19
12 mo after tx.	52%	24%	-67%	-29%	41%	68%	10%	67%	50%	82%	43%	37%
Percent reduction												
Used marijuana 5+ times:	48	42	52	29*	62	29*	61	41*	65	25*	58	33*
12 mo before tx.	24	24	29	11*	26	19	29	18*	28	3*	28	15*
12 mo after tx.	50%	43%	44%	62%	58%	34%	52%	56%	57%	88%	52%	55%
Percent reduction												
Used alcohol:												
30 days before pre-treatment interview	47	46	53	51	68	76*	57	59	10 ^b	12 ^b	49	52
30 days before post-treatment interview	36	39	48	42	44	56*	42	44	42	25*	44	43
Percent reduction	23%	15%	9%	18%	35%	26%	26%	25%	-	-	10%	17%
Got drunk 1+ times:												
30 days before pre-treatment interview	14	9	30	25	40	54*	33	35	7 ^b	6 ^b	27	26
30 days before post-treatment interview	10	8	24	13*	18	33*	17	29*	23	9*	20	17
Percent reduction	29%	11%	20%	48%	55%	39%	48%	17%	-	-	26%	35%
Used alcohol 21+ days:												
30 days before pre-treatment interview	8	16	8	11	17	33*	10	15	4 ^b	0 ^b	9	15
30 days before post-treatment interview	7	11	8	8	7	22*	8	9	7	3	7	10
Percent reduction	13%	31%	0%	27%	59%	33%	20%	40%	-	-	22%	33%

* Differs by 8 percentage points or more from comparison figure.

^b Pretreatment alcohol use indicators may not be meaningful for corrections group, many of whom may have been in custody during reference period.

- Sample base too small.

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- For all four major drugs (cocaine, crack, heroin, and marijuana), correctional SDUs appear to have been especially successful in generating large pre-post reductions in drug usage among clients age 45 or older. Although pre-treatment alcohol usage levels do not appear to be meaningful for clients in this SDU type (many of whom may have been incarcerated throughout the relevant pre-treatment period), post-treatment alcohol usage levels are also strikingly low among age 45+ clients who were in correctional SDUs.
- Methadone treatment appears to have been notably unsuccessful in reducing heroin use among 45+ clients, 72% of whom resumed use of heroin within one year following treatment. This "relapse" figure is much higher than the comparable figure for clients under 45 (47%).
- By contrast, short-term and long-term residential programs were both especially successful in producing widespread reductions in heroin use with clients age 45+ (67-68%, reductions).
- Other outpatient programs consistently produced more favorable outcomes for age 45+ clients than for younger clients, across substances.

Finally, Exhibit II-12 presents pre-post changes in client self-ratings, broken out by age group and treatment modality. Highlights include:

- For the 45+ group, correctional SDUs produced especially large pre-post reductions in the proportions of clients reporting that they were "very troubled" by alcohol problems (92% reduction) or by drug problems (81% reduction). But, as noted earlier, the sample is very small in this category.
- Clients in the 45+ age group reacted less favorably than those under 45 to long-term residential SDUs, on all rating dimensions.
- For both age cohorts, short-term residential SDUs were most often rated as having been "very much" helpful (by about 80% of both cohorts).

3.2 Crimes, Physical Assaults, and Arrests

Crimes, physical assaults, and arrests are outcome dimensions where the beneficial effects of the CSAT-funded treatment programs represented in the NTIES study were especially clear-cut and dramatic, both in terms of reductions in the percentage of clients involved in such activities and also in terms of reductions in the numbers of crimes and assaults being committed (Exhibit II-13). Consistently across indicators, the pattern is the same: (a) clients age 45+

EXHIBIT II-12
PRE-POST TREATMENT OUTCOMES: CLIENT ASSESSMENTS, BY
TREATMENT MODALITY AND AGE GROUP

Outcome Measure	Methadone		Other Outpatient		Short-term Residential		Long-term Residential		Correctional		Total	
	<45	45+	<45	45+	<45	45+	<45	45+	<45	45+	<45	45+
Number of Clients	346	76	1,406	160	810	63	807	34	677	32	4,046	365
					(Column percent)							
Bothered by alcohol problems:												
Before treatment	2	4	22	26	29	60*	25	32	26	38*	23	29
After treatment	3	4	8	8	7	22*	6	18*	5	3	6	10
Percent reduction	-	-	64%	69%	76%	63%	76%	44%	81%	92%	74%	66%
Bothered by drug problems:												
Before treatment	64	66	27	21	56	41*	56	50	37	47*	43	39
After treatment	37	28*	12	5	17	10	16	21	10	9	16	12
Percent reduction	42%	58%	56%	76%	70%	76%	71%	58%	73%	81%	63%	69%
Bothered by mental health problems:												
Before treatment	21	13*	15	30*	21	15	19	7*	12	3*	17	19
After treatment	17	14	6	6	7	11	8	9	5	3	7	8
Percent reduction	24%	-8%	60%	80%	67%	27%	58%	-	58%	-	59	58%
After-treatment assessment of overall helpfulness:												
Very much	45	50	56	64	81	80	60	52*	65	74*	62	64
Somewhat	44	43	36	26*	15	19	32	38	28	16*	30	29
Not at all	11	7	8	10	4	2	7	10	6	10	7	8

* Differs by 8 percentage points or more from comparison figure.

- Sample base too small.

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EXHIBIT II-13
PRE-POST TREATMENT OUTCOMES: CRIMES, PHYSICAL
ASSAULTS, AND ARRESTS, BY AGE GROUP

CRIMES, PHYSICAL ASSAULTS, AND ARRESTS	PERCENT REPORTING ANY INSTANCES IN 12 MONTHS:				MEAN NUMBER OF INSTANCES IN 12 MONTHS			
	BEFORE TREATMENT		AFTER TREATMENT		BEFORE TREATMENT		AFTER TREATMENT	
	<45	45+	<45	45+	<45	45+	<45	45+
Number of clients	4,046	365	4,046	365	4,046	365	4,046	365
	(Column percent)							
Total crimes	59	33 ^a	23	14 ^a	32.10	15.92	10.14	3.47
Major property crimes	17	6 ^a	6	2	2.89	1.53	0.67	0.07
Armed robbery	6	2	2	0	0.79	0.37	0.17	0
Breaking and entering	12	4 ^a	4	1	1.46	0.90	0.37	0.06
Vehicle theft	6	2	2	<1	0.63	0.26	0.15	0.01
Other crimes	57	32 ^a	22	13 ^a	29.21	14.40	9.49	3.40
Shoplifting	31	17 ^a	12	9	6.73	4.13	2.44	1.42
Sex for money drugs	21	10 ^a	7	3	5.95	1.70	1.77	0.08
Selling drugs	36	16 ^a	14	5 ^a	16.53	8.56	5.28	1.89
Physical assaults	33	11 ^a	12	5	4.58	0.61	0.93	0.14
Threats attacks w weapon	14	3 ^a	5	1	1.26	0.16	0.23	0.05
Beat up someone	29	8 ^a	11	4	2.30	0.27	0.55	0.06
Severely hurt someone	13	5 ^a	3	1	1.02	0.17	0.16	0.02
Got most income from crime	54	39 ^a	9	4				
Arrests								
Armed robbery	2	1	1	<1	-	-	-	-
Breaking and entering	5	3	2	<1	-	-	-	-
Vehicle theft	6	4	1	<1	-	-	-	-
Shoplifting	7	5	3	3	-	-	-	-
Prostitution	<1	0	not	asked	-	-	-	-
Selling drugs	9	10	2	<1	-	-	-	-
Aggravated assault	4	1	2	<1	-	-	-	-
Simple assault	3	1	3	1	-	-	-	-
DWI, DUI	15	10	2	1	-	-	-	-

^a Differs by 8 percentage points or more from comparison figure.

- Sample base too small.

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showed much less widespread criminal and assaultive behavior in the 12 months prior to treatment than clients under 45 (e.g., 33% of age 45+ clients reported having committed one or more specific criminal offenses, as compared to 59% of the under 45 clients), and (b) both groups showed substantial reductions in such behaviors in the period after treatment (e.g., only 4% of age 45+ clients reported that most of their income came from criminal activities in the post-treatment period, down from 39% before treatment; the comparable figures for under 45 clients were 9% after treatment and 54% before treatment).

These relationships are summarized graphically in Exhibit II-14, which shows the mean numbers of crimes and physical assaults committed by the two age cohorts in the 12 month periods before and after their substance abuse treatment. Clients in the age 45+ group reported an average of 15.9 crimes apiece in the year before treatment, and only 3.5 crimes in the year after treatment. Clients in the under 45 cohort reported substantially higher averages for both periods: 32.1 crimes in the before period, and 10.1 crimes in the after period. The percent reduction is similar for the two cohorts (78% for the 45+ group vs. 68% for the under 45 group).

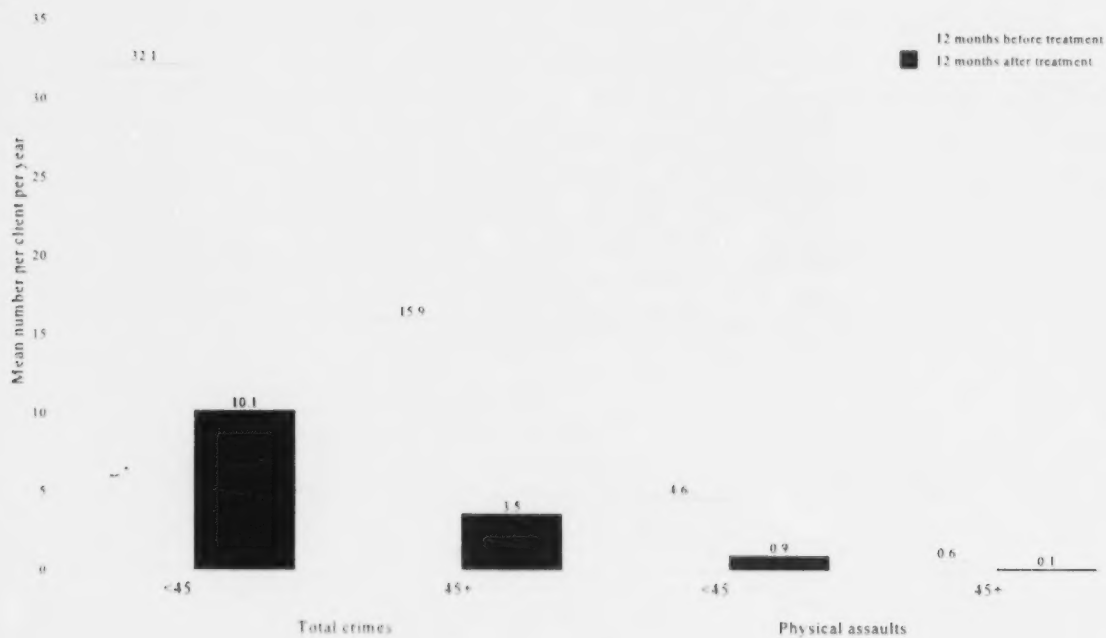
The pattern is similar for the assault statistics, where the pre-treatment average number of physical assaults was much lower for age 45+ clients than for those under 45 (0.6 vs. 4.6), and where the pre-post reduction was substantial for both groups.

3.3 Other Outcomes

Other pre-post outcome comparisons are shown in Exhibit II-15 for indicators in the areas of employment/incarceration, physical and mental health, and social/living situation. Highlights of the findings include:

- Both age cohorts showed substantial pre-post increases in employment rates, with the increase being smaller for the 45+ group than for the younger group (68% increase vs. 124%). For the 45+ group, the increase presumably reflects a reduction in unemployment. For the under-45 group, it also reflects initial entry into the labor market of young people who completed (or left) their educational programs in the interval between the pre-treatment and post-treatment interviews.
- More often than those in the under 45 cohort, clients in the 45+ cohort reported in the pre-treatment interview that they were unable to work because of illness, injury or disability (16% vs. 5%), and this difference was even larger in the post-treatment interview (28% vs. 8%).

EXHIBIT II-14
MEAN NUMBER OF PHYSICAL ASSAULTS AND OTHER CRIMES
IN THE 12 MONTHS BEFORE AND AFTER NTIES TREATMENT, BY AGE GROUP



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EXHIBIT II-15
PRE-POST TREATMENT OUTCOMES: EMPLOYMENT, HEALTH, AND
SOCIAL/LIVING SITUATION, BY AGE GROUP

CHARACTERISTIC	BEFORE TREATMENT		AFTER TREATMENT ^a		PERCENT CHANGE ^d	
	<45	45+	<45	45+	<45	45+
Number of clients	4,046	365	4,046	365	4,046	365
	(Column percent)					
Employment/incarceration						
Currently employed	21	19	47	32 ^c	124	68
In jail/prison	17	8 ^c	9	6	-47	-25
Unable to work: drug problems	19	15	8	9	-58	-40
Unable to work: ill/disabled	5	16 ^c	8	28 ^c	60	75
Physical health						
General health: fair or poor	28	48 ^c	25	53 ^c	-11	8
Health probs limit ability to work	30	59 ^c	27	61 ^c	-10	3
Mental health						
Anxiety attacks, ever	29	29	16	12	-	-
Very depressed, ever	54	55	36	32	-	-
Attempted suicide, ever	24	18	4	1	-	-
Hallucinations, ever	35	31	9	5	-	-
Very much troubled re mental health	17	19	7	8	-59	-58
Rec'd outpatient MH treatment ever	18	17	10	10	-	-
Rec'd inpatient MH treatment, ever	16	17	4	3	-	-
Rec'd psychotropic drugs, last 7 days	14	21	8	12	-43	-43
Social/living situation						
Living in own parents' house/apt in last 12 months	80	80	77	78	-4	-2
Currently married	19	35 ^c	18	29 ^c	-5	-17
Lives with partner/spouse	51	46	41	39	-20	-15
Lives with drug abuser	9	7	7	4	-22	-43
Lives with alcoholic	9	7	5	3	-44	-57
Raising 1+ own child(ren)	28	15 ^c	30	15 ^c	7	0
Lives alone	4	13 ^c	6	18 ^c	50	38
Has someone to confide in	83	80	85	83	2	4
Has emergency support person	93	90	93	91	0	1

^a Post-treatment data are based on actual interval following discharge, not adjusted to 12-month estimates.

^b The symbol - represents instances in which change measure is not appropriate, e.g., time references are not comparable.

^c Differs by 8 percentage points or more from comparison group. Not applicable to change measure.

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- Similar differences were found on other physical health indicators, with the 45+ group reporting more widespread and debilitating problems in this area than the under 45 group prior to treatment, and with even larger differences being evident in the post-treatment interview.
- In contrast to the findings for physical health, the two age cohorts did not differ appreciably on indicators of mental health, either before or after treatment. Both groups showed pre-post reductions in the prevalence of problems in this area.
- The two age cohorts also evidenced minimal differences on indicators of their social/living situations before and after treatment. The few observed differences seem directly and trivially reflective of the different age distributions of the two cohorts: the under 45 group includes teenagers and young adults of child-rearing age, while the 45+ group includes older adults, some of whom are no longer raising minor children. Consistent with these inherent life-stage differences, 45+ clients less often reported that they are raising minor children, more often reported being married, and also more often reported living alone. All of these differences were evident both before and after treatment.

III. SUMMARY AND CONCLUSIONS

This paper summarizes similarities and differences between two cohorts of NTIES clients, those age 45 or older and those younger than 45. In looking at the findings reported here, it is important to keep in mind that the statistics are exploratory and suggestive, and they are far from definitive. The age 45+ cohort was not selected to represent any larger population of older substance abuse patients to which the findings can be generalized. Even within the NTIES coverage framework, age 45+ clients were not evenly distributed across the 71 CSAT-supported SDUs for which NTIES client data were obtained. Additionally, the total number of age 45+ clients in the NTIES sample is quite small (n=365), and it consists mostly of clients clustered toward the youthful end of the "older" age range (85% of the clients age 45+ are in the 45-54 age range).

Notwithstanding these caveats, the comparison of age 45+ to younger NTIES clients revealed some interesting findings:

- Clients in the 45+ cohort were considerably more likely than members of the younger NTIES cohort to be treated for problems with alcohol (53% vs. 32%) or with heroin (30% vs. 18%), and they were correspondingly less likely to be treated for crack, cocaine, or other drugs.
- For clients in the 45+ cohort who were treated for heroin problems, it appears that methadone treatment programs did not work well: the post-treatment relapse rate for this group was 72%, considerably higher than seen for younger methadone clients (47%) or for age 45+ heroin patients in other treatment modalities.
- For clients in the 45+ cohort who were treated for alcoholism, post-treatment relapse rates were in the 40-50 percent range (depending on the indicator), comparable to the findings for younger alcoholism patients. The overall percentage of 45+ clients who reported being "very troubled" by their alcohol use declined from 30 percent before treatment to 10 percent following treatment, suggesting that most found their treatment beneficial in this area (as was also true for younger clients).
- For clients in the 45+ cohort, needle use and needle sharing both declined sharply following treatment (e.g., needle sharing dropped from 12% before treatment to 2% after), more so than was seen among younger NTIES clients.
- Physical disabilities were more prevalent among age 45+ NTIES clients than among younger clients, both before and after treatment.

- Clients in the 45+ age cohort evidenced marked pre-treatment vs. post-treatment declines in the prevalence and amount of physical assaults and criminal activities, as well as in the frequency of arrests for such behaviors with reductions of around 80 percent being seen for several indicators. Improvements in these areas were also dramatic for younger NTIES clients, who evidenced much higher pre-treatment involvement in these activities than did clients in the 45+ group.

APPENDIX

DESCRIPTION OF THE NATIONAL TREATMENT IMPROVEMENT EVALUATION STUDY AND CENTER FOR SUBSTANCE ABUSE TREATMENT DEMONSTRATIONS (1990-1992)

The National Treatment Improvement Evaluation Study (NTIES) was a national evaluation of the effectiveness of substance abuse treatment services delivered in comprehensive treatment demonstration programs supported by the Center for Substance Abuse Treatment (CSAT). The NTIES project collected longitudinal data between FY 1992 and FY 1995 on a purposive sample of clients in treatment programs receiving demonstration grant funding from CSAT. Client-level data were obtained at treatment intake, at treatment exit, and 12 months after treatment exit. Service delivery unit (SDU) administrative and clinician (SDU staff) data were obtained at two time points, 1 year apart.

1. THE NTIES DESIGN

The NTIES study design had two levels—an administrative or services component and a clinical treatment outcomes component.

1.1 The Administrative/Services Component

This study component was designed to assess how CSAT demonstration funds were used, what improvements in services were implemented at the program level, and what kind and how many programs and clients were affected by the demonstration awards. Four data collection instruments were used to gather administrative/services data: the NTIES Baseline Administration Report (NBAR), the NTIES Continuing Administrative Report (NCAR), the NTIES Exit Log, and the NTIES Clinician Form (NCF).

The unit of analysis for the administrative component was the SDU, defined by CSAT as a single site offering a single level of care. The classification of *level of care* is based on three parameters: (1) facility type (e.g., hospital, etc.); (2) intensity of care (e.g., 24-hour, etc.); and (3) type of service (e.g., outpatient, etc.). An SDU could be a stand-alone treatment provider or it could be one component of a multi-tiered treatment organization. For example, a large county mental health agency may be the *organization* within which the SDU is located. The organization may have multiple substance abuse treatment components, such as a county hospital and a county (ambulatory) mental health center. The county hospital may have multiple SDUs, such as an inpatient detoxification service, an outpatient counseling service, and a hospital

satellite center providing transitional care. In summary, the SDU provided NTIES evaluators with a stable, uniform level of comparison for examining service delivery issues.

A range of key clinician-specific data elements (within the administrative component) were assessed using the NTIES Clinician Form (NCF). The NCF items were an important adjunct to the facility- (SDU) level instruments; these items assessed clinician training, experience, client exposure, and service provision, and were completed by all counseling and clinical (medical and therapeutic) staff at the individual SDUs.

1.2 Clinical Treatment Outcomes Component

The unit of analysis for the clinical treatment outcomes component was individual client data. NTIES measured the clinical outcomes of treatment primarily through a "before/after" or "pre- to post-treatment" design. This method compares behaviors or other individual characteristics in the same participants, measured in similar ways, before and after an intervention.

Information about clients' lives for the *before* period were obtained from the NTIES Research Intake Questionnaire (NRIQ), which was administered sometime during the clients' first 3 weeks of treatment. The specific areas assessed included:

- Drug and alcohol use
- Employment
- Criminal justice involvement and criminal behaviors
- Living arrangements
- Mental and physical health.

Information about clients' lives for the *after* period were obtained from the NTIES Post-discharge Assessment Questionnaire (NPAQ), with the same areas assessed at roughly 12 months post-treatment. Other client data sources included a treatment discharge interview (NTIES Treatment Experience Questionnaire, NTEQ), abstracted client records, urine drug screens collected at the time of the follow-up interview, and arrest reports from state databases.

1.3 The Outcome Analysis Sample

Between August 1993 and October 1994, research staff successfully enrolled 6,593 clients at 71 SDUs to participate in three waves of an in-person, computer-assisted data collection protocol. These SDUs were chosen from the universe of treatment units receiving demonstration grant funding from CSAT. Some of the selected facilities were wholly supported by CSAT awards, while others received only indirect support or none.

Clients were interviewed at admission to treatment, when they left treatment, and then at 12 months after the end of treatment. Less than 10 percent of the recruited clients refused or avoided participation, and more than 83 percent of the recruited individuals (5,388 clients) completed a follow-up interview. Additional sample exclusions included:

- Missing or undetermined treatment exit date
- Inappropriate length of follow-up interval (less than 5 or more than 16 months)
- Clients incarcerated for most or all of the follow-up period.

The additional sample exclusions resulted in a final outcome analysis sample of 4,411 individuals.

2. TREATMENT DEMONSTRATION PROGRAMS

CSAT initiated three major demonstration programs and made 157 multi-year treatment enhancement awards across 47 states and several territories during 1990 through 1992. One objective common to all demonstrations was CSAT's emphasis on the provision of "comprehensive treatment" services to targeted client populations. The recipients of these awards focused special attention on the substance abuse treatment service needs of minority and special populations located primarily within large metropolitan areas. The demonstration programs are briefly described below.

2.1 Target Cities

Under this demonstration, nine metropolitan areas were selected to receive awards, of which half were included in the NTIES purposive sample. The following treatment improvement activities were explicitly provided for in the awards:

- Establishment of a Central Intake Unit (CIU) with automated client tracking and referral systems in place
- Provision of comprehensive services, including vocational, educational, biological, psychological, informational, and lifestyle components
- Improved inter-agency coordination (e.g., mental health, criminal justice, and human service agencies)
- Services for special populations—adolescents, pregnant and postpartum women, racial and ethnic minorities, and public housing residents.

2.2 Critical Populations

Under this demonstration program, awardees were required to implement "model enhancements" to existing treatment services for one or more of the following critical populations: racial and ethnic minorities, residents of public housing, and/or adolescents. Special emphasis was given to services provided to the homeless, the dually diagnosed, or persons living in rural areas. A total of 130 grants were awarded, covering services such as vocational support/counseling, housing assistance, integrated mental health and/or medical services, coordinated social services, culturally directed services, and others.

2.3 Incarcerated and Non-Incarcerated Criminal Justice Populations

Under this demonstration program, funds were directed toward improving the standard of comprehensive treatment services for criminally involved clients in correctional and other settings. Some program emphasis was placed on ethnic and/or racial minorities. Nine Correctional Setting demonstrations were funded: five in prisons, three in local jails, and one across a network of juvenile detention facilities. All projects included a screening component to identify substance-abusing inmates, a variety of targeted treatment interventions (e.g., therapeutic communities, intensive day treatment programs), and a substantial aftercare component.

A total of 10 non-incarcerated projects were funded. Five programs targeted interventions at clients in diversionary programs, three focused services on probationers or parolees, and two programs targeted both populations. Almost all of the funded demonstration projects included the following components:

- Basic eligibility determination, followed by systematic screening and assessment
- Referral to treatment
- Graduated sanctions and incentives while in treatment
- Intensive supervision in treatment
- Community-based aftercare with supervision and service coordination.

In total, 19 criminal justice projects were funded as part of the CSAT 1990-1992 demonstrations, and as indicated in the next section, these projects were purposively over-sampled in order to obtain a more robust evaluation of this program.

3. DESCRIPTION OF SDUs AND CLIENTS BY TREATMENT MODALITY AND PROGRAM TYPE

The 71 SDUs contributing clients to the outcome analysis sample are characterized by modality and (demonstration) program type in Exhibit A-1 below. Among the 698 SDUs in the NTIES universe: 52 percent (n=365) were Target Cities programs, 39 percent (n=274) were Critical Populations programs, and 9 percent (n=59) were Criminal Justice programs.

In terms of the SDUs sampled for the NTIES outcome analysis, 44 percent were Target Cities programs, 38 percent were Critical Populations programs, and 23 percent were Criminal Justice programs. Criminal Justice SDUs were purposely over-sampled as part of the NTIES evaluation design (CSAT, 1997). Nearly half of the sampled SDUs were (non-methadone) outpatient programs, and about one-quarter were long-term residential programs.

EXHIBIT A-1 SDUs IN THE OUTCOME ANALYSIS SAMPLE						
Program Title Number of SDUs (% of NTIES Universe) ¹	NTIES Sample	Methadone	Outpatient	Long-Term Residential	Short-Term Residential	Correctional
Target Cities n=365 (52%)	31 (44%)	6	15	6	4	0
Critical Populations n=274 (39%)	27 (38%)	1	13	10	3	0
Criminal Justice n=59 (9%)	13 (23%)	0	5	0	0	8
Totals N=698 (100%)	71 (100%)	7	33	16	7	8

As shown in Exhibit A-2, 59 percent of all NTIES clients were sampled from Target Cities SDUs. Slightly over 21 percent of all NTIES clients were sampled from Critical Populations SDUs and 20 percent were sampled from Criminal Justice SDUs. Outpatient (non-methadone) SDUs treated over one-third (35%) of the clients in the outcomes analysis sample, and almost 80 percent of these were sampled from Target Cities programs.

EXHIBIT A-2 DISTRIBUTION OF CLIENTS IN THE OUTCOMES ANALYSIS SAMPLE					
Program Title Number of Clients (% of Analysis Sample)	Methadone	Outpatient	Long-Term Residential	Short-Term Residential	Correctional
Target Cities n=2,600 (59%)	377 (89%)	1,214 (78%)	504 (60%)	505 (58%)	0
Critical Populations n=931 (21%)	45 (11%)	220 (14%)	298 (35%)	368 (42%)	0
Criminal Justice n=880 (20%)	0	132 (8%)	39 (5%)	0	709 (100%)
Totals n=4,411 (100%)	422	1,566	841	873	709

¹ The original NTIES universe of SDUs included a program type called *Specialized Services*. Because clients for the outcome analysis sample were not drawn from these SDUs (n=94), they are excluded from the Exhibit.

Readers who are interested in more detailed information about the NTIES project are invited to visit the NEDS Web site at: **<http://neds.calib.com>**. The NEDS Web site provides the full-length version of the NTIES Final Report (1997), as well as copies of all data collection instruments employed in NTIES.